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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,438	06/10/2002	Emanuelle Coignoul	KPTS/6648	6528
7590 04/15/2004			EXAMINER	
Keith M Tackett Moser Paterson & Sheridan 3040 Post Oak Blvd Suite 1500 Houston, TX 77056			CHANG, VICTOR S	
			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 04/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/030,438	Applicant(s) COIGNOUL ET AL.	
	Examiner Victor S Chang	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/14/2002</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restriction

1. This application contains claims directed to the following patentably distinct species of the claimed invention:

Species A (claim 18): triblock copolymer.

Species B (claims 18, 19 and 26-31): a mixture of a tri or multi block, and a diblock copolymer.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 11-17 and 20-25 are generic.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

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2. During a telephone conversation with Keith Tackett on 4/13/2004 a provisional election was made with traverse to prosecute the invention of Species B. Affirmation of this election must be made by applicant in replying to this Office action. Claim 18 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Objections

4. Claims 21, 26 and 27 are objected to because of the following informalities:

In claims 21, 26 and 27, please rewrite the unit "dg/min" as "--g/10min--", so as to be consistent with the Specification at page 9, line 5.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. Claims 11-18 and 20-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In view of the election of Species B, claims 11-18 and 20-25 are clearly vague, indefinite and fail to particularly point out and distinctly claim elected Species B.

Appropriate rewrite to clarify the elected Species in independent claim 11 is requested.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 11-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 00/26103 either individually, or in view of WO 00/12592.

WO '103 is directed to a synthetic closure (stopper) for a bottle or container. In one embodiment, the closure comprises a thermoplastic elastomer that comprises a styrenic block copolymer, an ethylene- α -olefin copolymer (branched polyolefin), a polypropylene and a blowing agent (Abstract). Suitable styrenic block copolymers include such as SEBS, SEPS, SBS, SIS, etc. (Page 18, line 21 to page 19, line 3). Suitable ethylene- α -olefin copolymers include ethylene-butene copolymer, ethylene-hexene copolymer, etc. In general, the ethylene- α -olefin copolymers have melt indexes ranging from 0.2-30 (page 19, lines 12-21). WO '103 also teaches that in order to

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optimize processability, various thermoplastic blends may be compounded (albeit optionally) to a large extent with other polymers, and may also be compounded with various processing additives such as oils, plasticizers, etc., to enhance one or more physical properties and properties of the synthetic closure (page 22, lines 3-9). In some embodiments, polyolefin oil (extending oil) is added to the composition to reduce costs, or improve physical properties (page 22, lines 13-17).

For claims 11-12, 20 and 22-25, WO '103 lacks an express teaching that the block copolymer comprises a mixture of triblock and diblock copolymers. However, it is well known that a triblock copolymer such as KRATON thermoplastic elastomer (Shell Chemical) inherently contains an amount of diblock copolymer, and as such WO '103 teaches the instant invention as claimed. Alternatively, it is noted that WO '592 is directed to a foamed compound of a blend of 100 parts elastomeric block copolymer having two external aromatic hydrocarbon blocks and an internal hydrogenated conjugated diene block, plasticizer, 10-100 parts polybutene-1 (poly-1-butene), and a blowing agent (Abstract). WO '592 also expressly teaches that the block copolymer includes linear triblock copolymer (ABA), and if it is desired that a block copolymer contains an amount of diblock copolymer, the latter is typically present in an amount of at least 5% by weight, preferably at least 10% by weight of the block copolymer. As such, in the absence of unexpected results, a suitable KRATON, which is inherently a mixture of triblock and diblock copolymer, is believed to be either inherently disclosed by WO '103, or an obvious selection to one of ordinary skill in the art of foamed block copolymers, as taught by KRATON, motivated by the desire to optimize the physical

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properties of the foamed product. Further, it should be noted that the selection of a known equivalent material based on its suitability for its intended use supported a *prima facie* obviousness determination. See MPEP § 2144.07.

For claims 13 and 14, the aforementioned SBS block copolymer clearly reads on the composition of claims 13 and 14.

For claims 15 and 16, WO '103 is silent about the weight percent of styrene in the elastomeric block copolymer, and the molecular weight of the block copolymer. However, since the scope of WO '103 is essentially the same as the instantly claimed invention, the Examiner notes that a suitable styrene content and molecular weight of block copolymer is each believed to be either inherently disclosed by WO '103, or an obvious optimization to one of ordinary skill in the art, motivated by the desire to obtain suitable physical and mechanical properties. It should be noted that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. See MPEP § 2112.01.

For claims 17-19, the Examiner notes that the aforementioned SEBS block copolymer inherently reads on the composition of styrenic elastomeric block copolymer of claim 17. Similarly, a suitable molecular weight of block copolymer is each believed to be either inherently disclosed by WO '103, or an obvious optimization to one of ordinary skill in the art, as set forth above.

For claim 21, WO '103 lacks an express teaching that the branched polyolefin is poly-1-butene. However, WO '592 also expressly teaches that a poly-1-butene polymer

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is either a butane-1 homopolymer or a copolymer or a terpolymer, i.e., they are known equivalent materials (page 6, lines 6-7). Additionally, WO '103 does expressly teach suitable ethylene- α -olefin copolymers include ethylene-butene copolymer (branched polyolefin), and in general the ethylene- α -olefin copolymers have melt indexes ranging from 0.2-30, as set forth above. As such, in the absence of unexpected results, since the scope of WO '103 is essentially the same as the instantly claimed invention, substituting the ethylene- α -olefin copolymer of WO '103 with poly-1-butene, as taught by WO '592, is believed to be an obvious selection of material to one of ordinary skill in the art, motivated by the desire to obtain a suitable blend of alternative materials. It should be noted that the selection of and substituting a known equivalent material based on its suitability for its intended use supported a *prima facie* obviousness determination. See MPEP § 2144.07.

For claims 22-23, WO '103 teaches that the formulated compositions in Examples 1-5 contain thermoplastic elastomer in the range of 25 to 75 wt%, the ethylene- α -olefin copolymer in the range of 15-65 wt%, and the polypropylene in the range of 0-50 wt% (page 34, lines 20-25).

For claims 24-25, WO '103 teaches that the blowing agent is an azodicarbonamide or sodium bicarbonate or mixture thereof (page 24, lines 28-29).

Claims 26-30 contain the essentially same elements of claims 1-25. As such, they are also rejected for the reasons as set forth above.

For claim 31, WO '103 is silent about the density of the bottle stopper (closure). However, WO '103 does teach that a suitable amount of blowing agent, which inherently

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effects the density of the closure, may be determined by one skilled in the art (page 26, lines 10-15). As such, in the absence of unexpected results, it is believed that a suitable density of the closure is either inherently disclosed by WO '103, or obvious optimization to one skilled in the art of synthetic closure, motivated by the desire to obtain a suitable closure for routine removal and reinsertion.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In addition, the following references are cited of interest for making foamed block copolymers:

US 5272182 to Burnell is directed to a blowing agent for making a foamable materials to be molded into a variety of thermoplastic structures. The styrene/diene (e.g., butadiene, isoprene, etc.) block copolymers are generally known in the art, and they may be diblock or triblock materials; and may also be either linear or branched in configuration. Furthermore, the block copolymers can be hydrogenated, nonhydrogenated, or partially hydrogenated (column 3, lines 14-24).

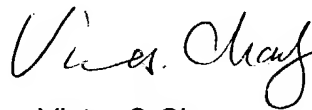
US 6150608 to Wambeke et al. is directed to a seal for sealing an aperture in an object (Abstract). The seal members may be formed from any one or more of a variety of sealing materials, such as elastomers including styrene-butadiene or styrene-isoprene diblock or triblock copolymers (column 5, lines 7-29).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S Chang whose telephone number is 571-272-1474. The examiner can normally be reached on 8:30 - 5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Victor S Chang
Examiner
Art Unit 1771

4/13/2004